

C-7647

SQUARYLIUM COMPOUNDS, AND PROCESSES AND INTERMEDIATES FOR THE SYNTHESIS OF THESE COMPOUNDS

Abstract of the Disclosure

Squarylium compounds of the formula:

$$Q^{1} = C \qquad \qquad (I)$$

10010

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wherein Q^1 and Q^2 are each independently a pyrylium, thiopyrylium, selenopyrylium, benzpyrylium, benzthiopyrylium or benzselenopyrylium nucleus, and R^1 and R^2 are each independently an aliphatic or cycloaliphatic group, can be prepared by reacting a squaric acid derivative of the formula:

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$$Q = C \longrightarrow O$$
 (II)

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with a compound of the formula $Q^2CH_2R^2$ in the presence of a base. The derivatives of Formula II may be prepared by condensing a 2,3,4,4-tetrahalocyclobut-2-en-1-one with a compound of the formula $Q^1CH_2R^1$ in the presence of a base to produce a compound of the formula:

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$$Q^{1} = C \xrightarrow{\begin{array}{c} \\ \\ \\ \\ \\ \end{array}} X$$
 (III)

wherein Q¹ and R¹ are as defined above, and X represents chlorine or bromine, and hydrolyzing the compound of Formula III. Alternatively, the derivatives of Formula II may be prepared by reacting a diester, monoacid chloride monoester or diacid chloride of squaric acid with a compound of the formula Q¹CH₂R¹ in the presence of a base, followed by hydrolysis of the resultant monoacid chloride or monoester derivative of the compound of Formula II to the parent compound.